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10/530,922

09/26/2005

Frank Miller

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EXAMINER

GANEY, STEVEN J

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/530,922  
Filing Date: September 26, 2005  
Appellant(s): MILLER ET AL.

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Gerard A. Messina  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed November 24, 2008 appealing from the Office action mailed June 11, 2008.

Art Unit: 3752

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

1,631,771	SHEATHER	6-1927
WO 01/53675 A2	NAU ET AL.	7-2001

Art Unit: 3752

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

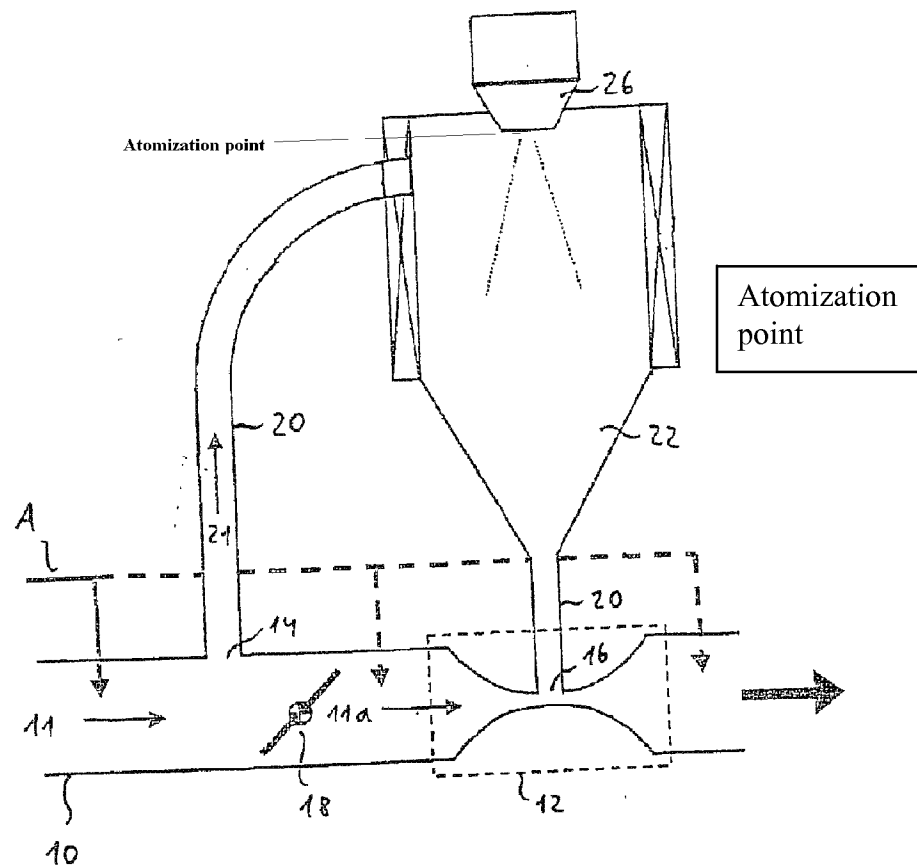
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16, 17, 19-26 and 28 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by WO 01/53675 A2 (Nau et al).

WO 01/53675 A2 (Nau et al) discloses an atomization system for a fuel comprising all the featured elements of the instant invention, note connecting tube 22; a low pressure fuel injector 26; the recitation of “low pressure” is considered to be functional language and the fuel injector 26 of WO 01/53675 A2 (Nau et al) is capable of injecting fuel at low pressure; an atomization point at the end of the fuel injector 26, see marked up figure; and an additional tube 20 for supplying the temperature-adjusted substance stream which can be air or water vapor.

The fuel injector 26 of WO 01/53675 A2 (Nau et al), while serving the purpose of atomization, is at the same time metering fuel through the nozzle and simultaneously atomizing the fuel after it is metered through the fuel injector.

Art Unit: 3752



3. Claims 16, 20, 22, 27, 28, 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheather.

Sheather discloses an atomization system for a fuel comprising all the featured elements of the instant invention, note specifically connecting tube 12 with a plurality of atomization points 19/20 in rounded corners of the end face 17; metering device/fuel injector 15 at metering point 16; another atomization point is located at the metering point 16 at the intersection of where the fuel enters the center of the connecting tube and where the flow of steam or air atomizes the fuel/oil as it passes over the metering point 16; and additional tube 14. The

Art Unit: 3752

recitation of “low pressure” is considered to be functional language and the metering device/fuel injector 15 of Sheather is capable of injecting fuel at low pressure.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheather.

Sheather discloses all the featured elements of the instant invention except for the fuel injector being inclined at a specific angle to an axis of the tube and connecting tube. Note applicant has not specified which axis of the tube and the connecting tube is being defined. At the point of connection of the fuel injector of Sheather there are an infinite number of axes of the tube and the connecting tube that are going through that point. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the fuel injector of Sheather at an inclined angle since such a modification would further enhance atomization and mixing in the chamber 13 through the tangential swirling flow of the fuel entering the tube.

**(10) Response to Argument**

Applicant argues that WO 01/53675 A2 (Nau et al) does not disclose a metering device comprising a “low pressure” fuel injector. Note that the applicant does not define in the specification or the claims what a “low pressure fuel injector” encompasses, and therefore is consider to be only descriptive and functional language and does not further limit the claim. In

Art Unit: 3752

the specification on page 3, line 16, the specification only refers to “so-called low-pressure fuel” injectors without any further description. Note that the nozzle in WO 01/53675 A2 (Nau et al) injects fuel into the connecting tube, therefore it is a “fuel injector”, since no other limitations are recited further defining the fuel injector. Also, WO 01/53675 A2 (Nau et al) discloses in paragraph [0018] that the fuel injector 26 can be a screen flow valve type nozzle, therefore, the flow valve will meter the fuel through the screen flow valve type nozzle. When fuel travels through the larger tubular upper portion of the nozzle 26 and through the smaller tapered end portion of the nozzle 26, the fuel is inherently being metered or regulated through the screen flow valve in the smaller end portion.

In response to applicant’s arguments concerning Sheather, note that applicant does not define in the specification or the claims what a “low pressure fuel injector” encompasses, and therefore is consider to be only descriptive and functional language and does not further limit the claim. Note that the metering device/fuel injector 15 of Sheather is provided with a suitable valve for the regulation (i.e. metering) of the amount of oil supplied (i.e. the fuel), see lines 98-101, and injects fuel into the connecting tube, therefore it is a “fuel injector”, since no other limitations are recited further defining the fuel injector. When a liquid or fluid is metered it is by definition supplied in a measured or “regulated” amount. A valve by definition is a device for controlling the flow of liquid or fluid through a passage, therefore, the valve of Sheather will “regulate” or meter the amount of oil through the fuel injector. As to claim 31, see Figure 4 which clearly shows the end face 17 of the connecting tube having rounded corners and the atomization points at least in part located in the rounded corners of the end face.

Art Unit: 3752

Finally, in regard to “low pressure fuel injector”, the applicant misinterprets the principle that claims are interpreted in the light of the specification. Although these elements are found as examples or embodiments in the specification, they are not claimed explicitly. Nor were the words that are used in the claims defined in the specification to require these limitations. A reading of the specification provides no evidence to indicate that these limitations must be imported into the claims to give meaning to disputed terms. In addition the term "low pressure" fuel injector in the specification has not been described in pressure values or ranges (i.e. Pa or psi) to determine what "low pressure" defines for the operation of the fuel injector.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Art Unit 3752

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